

SECTION II—CLAIMS

1. (Currently Amended) An apparatus comprising:
 - a film bulk acoustic resonator (FBAR) filter having an input and an output; and
 - an impedance matching unit coupled to one of the input and the output of the FBAR filter, wherein the impedance matching unit matches the impedance of the FBAR filter to the impedance of an input circuit coupled to the input or an output circuit coupled to the output based upon the effective area of the FBAR filter.
2. (Currently Amended) The apparatus of claim 1 wherein the FBAR filter comprises a ladder-type FBAR filter.
3. (Original) The apparatus of claim 1 wherein the FBAR filter comprises a lattice-type FBAR filter
4. (Original) The apparatus of claim 1 wherein the impedance matching unit comprises a shunt capacitor followed by an in-line inductor.
5. (Original) The apparatus of claim 1 wherein the impedance matching unit comprises an in-line inductor followed by a shunt capacitor.
6. (Original) The apparatus of claim 1 wherein the impedance matching unit comprises a shunt inductor followed by an in-line capacitor.
7. (Original) The apparatus of claim 1 wherein the impedance matching unit comprises an in-line capacitor followed by a shunt inductor.
8. (Original) The apparatus of claim 1 wherein the impedance matching unit comprises a shunt inductor followed by an in-line inductor.

9. (Original) The apparatus of claim 1 wherein the impedance matching unit comprises an in-line inductor followed by a shunt inductor.
10. (Original) The apparatus of claim 1 wherein the impedance matching unit comprises a shunt capacitor followed by an in-line capacitor.
11. (Original) The apparatus of claim 1 wherein the impedance matching unit comprises an in-line capacitor followed by a shunt capacitor.
12. (Original) The apparatus of claim 1 wherein the impedance matching unit comprises a balanced/unbalanced (balun) circuit.
13. (Canceled)
14. (Currently Amended) An apparatus comprising:
 - a film bulk acoustic resonator (FBAR) filter having an input and an output;
 - an input impedance matching unit coupled to the input of the FBAR filter,
wherein the input impedance matching unit matches the impedance of the FBAR filter to an impedance of an input circuit based on the effective area of the FBAR filter; and
 - an output impedance matching unit coupled to the output of the FBAR filter,
wherein the output impedance matching unit matches the impedance of the FBAR filter to an impedance of an output circuit based on the effective area of the FBAR filter.
15. (Original) The apparatus of claim 14 wherein the input impedance matching unit and the output impedance matching unit have different constructions.
16. (Original) The apparatus of claim 14 wherein the input impedance matching unit and the output impedance matching unit have the same construction.

17. (Currently Amended) The apparatus of claim 14 wherein the input impedance matching unit or the output impedance matching unit comprises a shunt capacitor followed by an in-line inductor.
18. (Original) The apparatus of claim 14 wherein the input impedance matching unit or the output impedance matching unit comprises an in-line inductor followed by a shunt capacitor.
19. (Original) The apparatus of claim 14 wherein the input impedance matching unit or the output impedance matching unit comprises a shunt inductor followed by an in-line capacitor.
20. (Original) The apparatus of claim 14 wherein the input impedance matching unit or the output impedance matching unit comprises an in-line capacitor followed by a shunt inductor.
21. (Original) The apparatus of claim 14 wherein the input impedance matching unit or the output impedance matching unit comprises a balanced/unbalanced (balun) circuit.
22. (Currently Amended) A system comprising:
 - an input circuit; and
 - a filter coupled to the input circuit, the filter comprising:
 - a film bulk acoustic resonator (FBAR) filter having an input and an output, and
 - an input impedance matching unit coupled to the input circuit and to the input of the FBAR filter, wherein the input impedance matching unit matches the

impedance of the FBAR filter to an impedance of an input circuit based on the effective area of the FBAR filter.

23. (Currently Amended) The system of claim 22, further comprising:

an output circuit; and

an output impedance matching unit coupled to the output circuit and to the output of the FBAR filter, wherein the output impedance matching unit matches the impedance of the FBAR filter to an impedance of an output circuit based on the effective area of the FBAR filter.

24. (Original) The system of claim 23 wherein the input impedance matching unit and the output impedance matching unit have different constructions.
25. (Original) The system of claim 23 wherein the input impedance matching unit and the output impedance matching unit have the same construction.
26. (Currently Amended) The system of claim ~~[[22]]~~ 23 wherein the input impedance matching unit or the output impedance matching unit comprises a shunt capacitor followed by an in-line inductor.
27. (Currently Amended) The system of claim ~~[[21]]~~ 23 wherein the input impedance matching unit or the output impedance matching unit comprises an in-line inductor followed by a shunt capacitor.
28. (Currently Amended) The system of claim ~~[[21]]~~ 23 wherein the input impedance matching unit or the output impedance matching unit comprises a shunt inductor followed by an in-line capacitor.

29. (Currently Amended) The system of claim [[21]] 23 wherein the input impedance matching unit or the output impedance matching unit comprises an in-line capacitor followed by a shunt inductor.
30. (Currently Amended) The [[apparatus]] system of claim [[21]] 23 wherein the input impedance matching unit or the output impedance matching unit comprises a balanced/unbalanced (balun) circuit.
31. (Currently Amended) A process comprising:
- providing a film bulk acoustic resonator (FBAR) filter, the FBAR filter having an input impedance and an output impedance;
 - matching the impedance of an input circuit to the input impedance of the FBAR filter based on the effective area of the FBAR filter; and
 - matching the output impedance of the FBAR filter to the impedance of an output circuit based on the effective area of the FBAR filter.
32. (Original) The process of claim 31 wherein matching the impedance of the input circuit to the input impedance of the FBAR filter comprises coupling an impedance matching unit to the input circuit and to the input of the FBAR filter.
33. (Original) The process of claim 32 wherein the input impedance matching unit comprises a shunt capacitor followed by an in-line inductor.
34. (Original) The process of claim 32 wherein the input impedance matching unit comprises an in-line inductor followed by a shunt capacitor.
35. (Original) The process of claim 32 wherein the input impedance matching unit comprises a shunt inductor followed by an in-line capacitor.

36. (Original) The process of claim 32 wherein the input impedance matching unit comprises an in-line capacitor followed by a shunt inductor.
37. (Original) The process of claim 31 wherein matching the output impedance of the FBAR filter to the impedance of the output circuit comprises coupling an impedance matching unit to the output circuit and to the output of the FBAR filter.
38. (Original) The process of claim 37 wherein the output impedance matching unit comprises a shunt capacitor followed by an in-line inductor.
39. (Original) The process of claim 37 wherein the output impedance matching unit comprises an in-line inductor followed by a shunt capacitor.
40. (Original) The process of claim 37 wherein the output impedance matching unit comprises a shunt inductor followed by an in-line capacitor.
41. (Original) The process of claim 37 wherein the output impedance matching unit comprises an in-line capacitor followed by a shunt inductor.
42. (Original) The process of claim 37 wherein the output impedance matching unit comprises a balanced/unbalanced (balun) circuit.